BAOFENG 寶鋒®

TWO-WAY RADIO

UV-B5

USER'S MANUAL

Dual Band, Dual Display, Dual Standby

Priority Channel Scanning
DTMF Encoded
FM Radio Built-in
Emergency Alarm
Noise Reduction
U / V Cross Band Dual Watch
1750HZ Relay Forwarding Confirmed



CONTENT

SAFETY INFORMATION

The following safety precautions shall always be observed during operation, service and repair of this equipment.

- This equipment shall be serviced by qualified technicians only.
- Do not modify the radio for any reason.
- Use only BAOFENG supplied or approved batteries and chargers.
- Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn can result.
- Turn off your radio prior to entering any area with explosive and flammable materials.
- Do not charge your battery in a location with explosive and flammable materials.
- To avoid electromagnetic interference and/or compatibility conflicts, turn off your radio in any area where posted notices instruct you to do so.
- Turn off your radio before boarding an aircraft. Any use of a radio must be in accordance with airline regulations or crew instructions.
- Turn off your radio before entering a blasting area.
- For vehicles with an air bag, do not place a radio in the area over an air bag or in the air bag deployment area.
- Do not expose the radio to direct sunlight over a long time, nor place it close to heating source.
- When transmitting with a portable radio, hold the radio in a vertical position with the microphone 3 to 4 centimeters away from your lips. Keep antenna at least 2.5 centimeters away from your body when transmitting.

WARNING: If you wear a radio on your body, ensure the radio and its antenna are at least 2.5 centimeters away from your body when transmitting.

FEATURES AND FUNCTIONS

1.Frequency Range:
Commercial FM radio 65-108MHz (only for reception)
VHF 136-174 (RX/TX) UHF 400-470MHz (RX/TX) dual band
2.Mode: VFO,Channel Mode
3.Commercial FM radio
4.Dual Display/Dualband
5.DTMF encoding
6. Incorporates 104 codes "DCS" and 50 privacy codes "CTCSS" programmable.
7.CTCSS and DCS setting in different MENUs
8.Transmitter transmission (TOT)
9.Frequency step (5/6.25/10/12.5/20/25kHz)
10. Battery saving function
11.VOX (Voice operated transmission)
12.BCL (Busy channel lockout)
13.Low battery warning
14.Auto LCD illumination
15.Channel mode display (Name,Frequency,Channel #)
16. DTMF tone of transmitting code.
17.Scan resume method (TO/CO/SE)
18.PTT-ID (Press or release the PTT to transmit code;Press and release the PTT to transmit code)
19. Under frequency mode, band shift setting for accessing repeater
20.Offset frequency range 0-69.9875MHz
21.Direct entering numerical key to select MENU
22.Channel capacity 99
23.Reverse function
24. Alarm function
25.Audio companding
26.PC programming

UNPACKING AND CHECKING EQUIPMENTS

Carefully unpack the transceiver. We recommend that you identify the items listed in the following before discarding the packing material. If any items are missing or have been damaged during shipment, please contact your dealers immediately.

ITEM	QUANTITY
Transceiver Unit	1
Antenna	1
Handstrap	1
Charger	1
Battery	1
Beltclip	1
USER'S MANUAL	1



Note:
- Items included in the package, may differ from those listed in the table above depending on the country of purchase. For more information, consult your dealer or vendor.
- Consult the dealer or retailer for information about options available.

BATTERY CHARGING

Use only the charger specified by the manufacturer. The charger's LED indicates the charging progress.

Please follow these steps:

1. Plug the AC connector of the adapter into the AC outlet socket.
2. Place the radio with the battery attached, or the battery alone, in the charger.
3. Make sure the battery is in good contact with the charging terminals. The charging process initiates when the red LED lights.
4. The green LED lights about 4 hours later indicating the battery is fully charged. Then remove the radio with the battery attached or the battery alone from the charger.



INITIAL USE

New batteries are shipped uncharged fully from the factory. Charge a new battery for 5 hours before initial use. The maximum battery capacity and performance is achieved after three full charge/discharge cycles. If you notice the battery power runs low, please recharge the battery.

WARNING:

- To reduce the risk of injury, charge only the battery specified by the manufacturer. Other batteries may burst, causing bodily injury and property damage.
- To avoid risk of personal injury, do not dispose of batteries in a fire!
- Dispose of batteries according to local regulations (e.g.recycling). Do not dispose as household waste.
- Never attempt to disassemble the battery.

BATTERY TIPS

1. When charging your battery, keep it at a temperature among 5℃ - 40℃. Temperature out of the limit may cause battery leakage or damage.
2. When charging a battery attached to a radio, turn the radio off to ensure a full charge.
3. Do not cut off the power supply or remove the battery when charging a battery.
4. Never charge a battery that is wet. Please dry it with a soft cloth prior to charge.
5. The battery will eventually wear out. When the operating time (talk-time and standby time) is noticeably shorter than normal performance, it is time to buy a new battery.

PROLONG BATTERY LIFE

1. Battery performance will be greatly decreased at a temperature below 0℃. A spare battery is necessary in cold weather. The cold battery unable to work in this situation may work under room temperature, so keep it for later use.
2. The dust on the battery contact may cause the battery cannot work or charge. Please use a clean dry cloth to wipe it before attaching the battery to the radio.

BATTERY STORAGE

1. Fully charge a battery before you store it for a long time, to avoid battery damage due to over-discharge.
2. Recharge a battery after several months' storage (Li-Ion batteries: 6 months), to avoid battery capacity reduction due to over-discharge.
3. Store your battery in a cool and dry place under room temperature, to reduce self-discharge.

INSTALLING THE ANTENNA

Install the antenna as shown in the figure below and turn it clockwise until it stops.



Note:

- When installing the antenna, don't rotate it by its top, holding it by its base and turn.
- If you use an external antenna, make sure the 'SWR' is about 1.5:1 or less, to avoid damage to the transceiver's final transistors.
- Do not hold the antenna with your hand or wrap the outside of it to avoid bad operation of the transceiver.
- Never transmit without an antenna.

INSTALLING THE BELT CLIP

If necessary, install the belt clip at the rear of the battery compartment cover as shown in the figure below.



Note:

- Do not use any kind of glue to fix the screw on the belt clip. The solvents Glue may damage the battery casing.

MICRO-HEADSET INSTALLATION OF EXTERNAL

Plug the external micro-headset connector into the jack of 'SP. & MIC'of the transceiver as shown in the figure below.



BATTERY INSTALLATION

-When attaching the battery, make sure the battery is in parallel and in good contact with the aluminum chassis. The battery bottom is about 1 to 2 centimeters below the bottom of the radio's body.

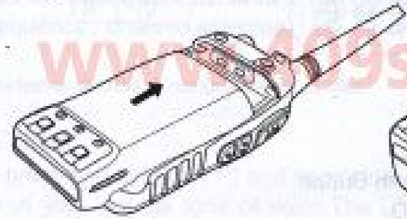
-Align the battery with the guide rails on the aluminum chassis and slide it upwards until a 'click' is heard.

-The battery latch at the bottom locks the battery.

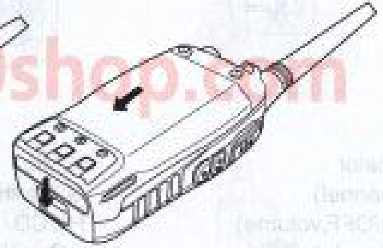
-Turn off the radio before removing the battery.

-Slide the battery latch, at the bottom of the radio's body, in the direction indicated by the arrow.

-Slide down the battery for about 1 to 2 centimeters,and then remove the battery from the radio's body.



1



2

PARTS, CONTROLS AND KEYS

RADIO OVERVIEW

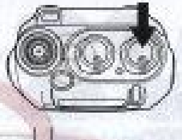


A:LED indicator
B:Knob (Channel)
C:Knob(ON/OFF,volume)
D:PTT Key(push-to-talk)
E:Monitor
F: SP.&MIC Jack
K:Mic
G:Alarm Button
H:LCD
I: Speaker
J:Keypad

BASIC OPERATION

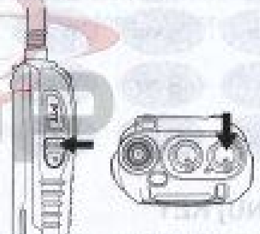
RADIO ON-OFF

-Make sure the antenna and battery are installed correctly and the battery charged.
-Rotate the knob clockwise to turn the radio on, and rotate the knob fully counter-clockwise until a 'click' is heard to turn the radio off.



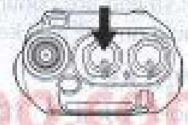
VOLUME CONTROL

Press and hold the MONI button, then rotate the knob clockwise or counter-clockwise,to adjust the volume.



SELECTING A FREQUENCY OR CHANNEL

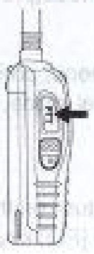
Press the key 【UP】 or 【DOWN】 to select the desired frequency/channel you want. Also you may directly enter the numeric to select frequency/channel. The display shows the frequency / channel selected.



Note:
- You can not select a channel if not previously stored.

TRANSMITTING

-To transmit, press and hold [PTT] and speak into the microphone in your normal tone of voice.The LED indicator lights continuously red when transmitting.
-To maximize sound clarity at the receiving station, hold the transceiver 2 to 3 inches from mouth and talk in normal tone of voice.
-Release [PTT] to receive.





[MENU] KEY

1.Press [MENU] key, then press [UP] or [DOWN] key to choose each menu.All menu parameters and channel saving are confirmed by pressing [AB／⏎] key.
2.Press and hold on [MENU] key for 2 seconds, to lock the the keypad or unlock the keypad.

[UP]／[DOWN] KEY

1.Press and hold 【UP】 or 【DOWN】 key for frequency/channel up or down fast.
2.Under scanning mode,press 【UP】 or 【DOWN】 key,the scanning will be opposite.

[AB／⏎]

-While come into menu, press [AB／⏎] key, to set all menu parameter.
-Under VFO/Channel mode, press [AB／⏎] key, to switch Frequency A/Channel A and Frequency B/Channel B.

FM

-Press [FM] key to turn on the FM radio.
-Press and hold on [FM] key to delete the stored FM radio channel.

VM/SCAN

-Press [VM/SCAN] key to switch VFO mode and channel mode
-Press [MENU] key,then press [VM/SCAN] key to scan the frequency/channel.
-Press and hold on [VM/SCAN] about 2 seconds to store frequency. Now press [UP] or [DOWN] key, if the left top numeric flashes,that means it is blank; and if it doesn't flash,that means there are stored channel, you press [AB／⏎] key to confirm saving or cover the stored channel. Press any numeric key to cancell saving.

NUMERIC KEY

-Use for entering frequency, channel #, menu #,menu parameter etc.

PTT

-Push PTT to transmit, releas PTT to receive.

MONI

-Press and hold (Squelch OFF) to hear the background noise; Release to return to normal operation.

1750 Hz TONE FOR ACCESS TO REPEATERS

-The user needs to establish long distance communications through an amateur radio repeater which is activated after receiving a 1750 Hz tone. Press and hold on the 【PTT】 ,then press the 【MONI】 button to transmit a 1750Hz tone.

RESET (Restore to default setting)

-Press and hold on [FM] key,then switch on, to reset the radio, the LCD displays 'VFO' (Frequency reset) or 'ALL' (All reset), choose which one you want, press [AB/⏎] to confirm.

RESET (Restore to default setting)

-Press and hold on [FM] key,then switch on, to reset the radio, the LCD displays 'VFO' (Frequency reset) or 'ALL' (All reset), choose which one you want, press [AB/⏎] to confirm.

-You can program your transceiver operating in the setup menu to suit your needs or preferences.

SET MENU DESCRIPTION

Menu	Function/Description	Available settings
1	STEP(Frequency step)	5/6.25/10/12.5/20/25kHz
2	SQL (Squelch level)	0---9
3	SAVE(Battery save)	OFF/ON
4	TXPR(Transmit power)	HIGH/LOW
5	ROGE(off transmission tone)	OFF/ON
6	TOT(Transmission timer)	1min-7min
7	VOX(Voice operated transmission)	OFF/1-9
8	BEEP(Keypad beep)	ON/OFF
9	VOIC(Voice prompt)	ON/OFF
10	TDR(Dual watch)	OFF/ON
11	RCODE(Reception Continuous Tone Coded Squelch)	OFF
12	TCODE(Transmission Continuous Tone Coded Squelch)	OFF
13	ABR(display illumination)	ON/OFF
14	PTT-ID (press the PTT button to transmit the signal code)	ON/OFF

Menu	Function/Description	Available settings
15	ANI(automatic number identification of the radio)	0-9; A-F
16	PTIDM(the mode of transmitting the signal code)	OFF/BOT/EOT/BOTH
17	DTST(the DTMF tone of transmitting code)	OFF/ON
18	MDF-1(under channel mode, F1 channel displays)	FREQ/CHAN/NAME
19	MDF-2(under channel mode, F2 channel displays)	FREQ/CHAN/NAME
20	BCL(busy channel lockout)	ON/OFF
21	SFTD(direction of frequency shift)	0, -, +
22	OFFSET(frequency shift)	0…69.995M
23	SCRNM(scan resume method)	TO/CO/SE
24	TXAB((transmitting selection while in dual watch/ reception)	OFF/F1/F2
25	REV(reverse frequency)	ON/OFF
26	STE(Tail Tone Elimination)	ON/OFF
27	NAME(channel name)	0–9
28	W/N(wide/narrow bandwidth)	WIDE/NARRO
29	COMP (Noise reduction)	ON/OFF

1.FREQUENCY HOPPING "STEP"

Schedule frequent breaks to select the receive and transmit frequency adequate.Perform the following steps to select the desired frequency hopping:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 01 "STEP"
2.-Press [AB/⏎], then press [UP]/[DOWN] to select 5/6.25/10/12.5/20/25kHz
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



2.SQUELCH THRESHOLD SETTING "SQL"

The squelch mute the speaker when no signal transceiver reception extending the duration of the battery.To adjust the squelch threshold, perform the following steps:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 02 "SQL"
2.-Press [AB/⏎] ,then Press [UP]/[DOWN] to select the desired level between 0 and 9 (level default setting is 5). It is recommended that you begin to adjust from Level 1, selecting the level where the background noise in the absence of signal.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



3.BATTERY SAVER "SAVE"

This transceiver incorporates a battery saver, if you have acts of active follows:
If we receive a very strong signal and we have a transceiver with high transmit power, the transceiver is automatically set to the low transmission power. With this option, extend the life of the battery of the transceiver. Follow the steps below to enable or disable this feature:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 03 "SAVE"
2.-Press [AB/⏎],then press [UP]/[DOWN] to to select ON/OFF.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



4.SELECTING TRANSMIT POWER "POWER"

Select the transmission power high or low in the transceiver, following the procedure detailed below:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 04 "POWER"

2.-Press [AB/⏎],then press [UP]/[DOWN] to to select HIGH/LOW.

3.-Press [AB/⏎] to save the setting.

4.-Press [MENU] or any numeric key to exit.



5.SELECTING OFF TRANSMISSION TONE "ROGE"

If you want the same group to know when you release the PTT, off transmission, you may activate this function, please follow the steps:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 05 "ROGE"

2.-Press [AB/⏎],then press [UP]/[DOWN] to to select ON/OFF.

3.-Press [AB/⏎] to save the setting.

4.-Press [MENU] or any numeric key to exit.



6.TIMER TRANSMISSION "TOT"

This function can automatically control the time we transmit each time you press [PTT] on the transceiver. This feature is very useful to avoid overheating if power transistor works excessively.

The transceiver will be off transmission automatically according to the set time.

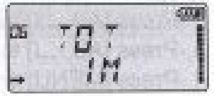
Follow the steps below to set the timer transmission:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 06 "TOT"

2.-Press [AB/⏎],then press [UP]/[DOWN] to select timer OFF/1min/2min/.../7min.

3.-Press [AB/⏎] to save the setting.

4.-Press [MENU] or any numeric key to exit.



7.FUNCTION "VOX" (VOICE OPERATED TRANSMISSION)

This function is not necessary to push the [PTT] on the transceiver for a transmission. Transmission is activated automatically by detecting the radio voice. When finish speaking, the transmission automatically terminated and the transceiver will automatically receive signal. Be sure to adjust the VOX Gain level to an appropriate sensitivity to allow smooth transmission.

To enable or disable this feature, follow the steps below:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 07 "VOX"

2.-Press [AB/⏎],then press [UP]/[DOWN] to to select OFF/1/2/3/4/5/6/7/8/9.

3.-Press [AB/⏎] to save the setting.

4.-Press [MENU] or any numeric key to exit.



Note:
- Levels 7 to 9 are most sensitive, is used in quiet environments.
- Levels 4 to 6 are medium-speed, is used in normal environments.
- Levels 1 through 3 are less sensitive, is used in high ambient noise conditions.

8.FUNCTION "BEEP" KEYPAD

When activated, you will hear a "beep" each time you press a key on the transceiver. If you select "OFF" will not hear any "beep". To enable or disable this feature, follow the procedure outlined below:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 08 "BEEP"

2.-Press [AB/⏎],then press [UP]/[DOWN] to to select OFF/ON.

3.-Press [AB/⏎] to save the setting.

4.-Press [MENU] or any numeric key to exit.



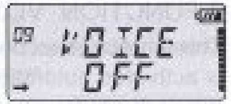
9.VOICE PROMPT "VOIC"

To select the desired language of voice prompt,please follow as the steps:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 09 "VOIC"

2.-Press [AB/⏎],then press [UP]/[DOWN] to to select OFF/ON.

3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



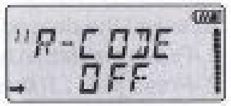
10.DUAL WATCH/DUAL STANDBY "TDR"

This feature allows you to operate between UHF and VHF VFO mode. Periodically, the transceiver checks whether a signal is received on another frequency that we have scheduled. If you receive a signal, the unit will remain in the frequency until the received signal disappears.
Perform the following procedure to enable or disable this feature:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 10 "TDR"
2.-Press [AB/⏎],then press [UP]/[DOWN] to to select OFF/ON.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



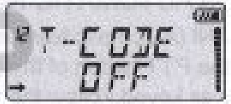
11.SUBTONES / CODES FOR RECEIVING "RCODE"

In some cases only want to establish communications in a closed user group at a particular frequency or channel, for it will use "CTCSS" or code "DCS" for reception.The "squelch" opens only when receiving a frequency with "CTCSS" or codes "DCS" same as the programmed in your transceiver. If codes of the received signal differs from those programmed in your transceiver, the "squelch" will not open and the received signal can be heard.Do as following steps to set:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 11 "RCODE"
2.-Press [AB/⏎],then press [MENU]to select CTCSS,DCS,OFF.
3.-Press [UP]/[DOWN] to set parameter.
4.-Press [AB/⏎] to save the setting.
5.-Press [MENU] or any numeric key to exit.



12.SUBTONES / CODES FOR TRANSMITTING "TCODE"

In some cases only want to establish communications in a closed user group at a particular frequency or channel, for it will use "CTCSS" or code "DCS" for transmission.The "squelch" opens only when transmitting a frequency with "CTCSS" or codes "DCS" same as the programmed in your transceiver. If codes of the transmitted signal differs from those programmed in you transceiver, the "squelch" will not open and the received signal can be heard.Do as following steps to set:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 12 "TCODE"
2.-Press [AB/⏎],then press [MENU]to select CTCSS,DCS,OFF.
3.-Press [UP]/[DOWN] to set parameter.
4.-Press [AB/⏎] to save the setting.
5.-Press [MENU] or any numeric key to exit.



13.DISPLAY ILLUMINATION "ABR"

This transceiver incorporates a display illumination from light for use in low ambient light. There are two lighting options:
ON: The display and keypad lights up when you press any key.
OFF: The illumination will remain always off.
To select the type of lighting desired, follow the steps below:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 13 "ABR"
2.-Press [AB/⏎],then press [UP]/[DOWN] to to select OFF/ON.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



14.SENDING SIGNAL CODE "PTT ID"

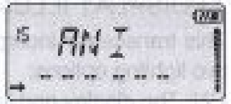
This transceiver comes with encoding ability.When pressing the PTT to send signal code, the other transceiver with coding ability will know who you are.

Perform the following procedure to enable or disable this feature:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 14 "PTT ID"
2.-Press [AB/↵],then press [UP]/[DOWN] to to select OFF/ON.
3.-Press [AB/↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



15.AUTOMATIC NUMBER IDENTIFICATION "ANI"

ANI (Automatic Number Identification) is also known as PTT ID because an ID is transmitted when the PTT button of the radio is pressed and/or released. This ID tells the dispatcher which field radio was keyed.Follow the steps below to set ANI code:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 15 "ANI"
2.-Press [AB/↵],then press [UP]/[DOWN] to select from (0-9;A-F),press #9 to set next digit,press #7 to set previous digit.
3.-Press [AB/↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



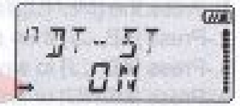
16.MODE OF TRANSMITTING SIGNAL CODE "PTIDM"

There are three different ways to send the signal code:
BOT: Push the [PTT] to send signal code
EOT: Release the [PTT] to send signal code.
BOTH: Push or release the [PTT] to send signal code.
Follow the steps below to select different way to send code:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 16 "PTIDM"
2.-Press [AB/↵],then press [UP]/[DOWN] to to select OFF/BOT/EOT/BOTH.
3.-Press [AB/↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



17.DTMF TONE "DTST"

Under transmitting code, you can hear the DTMF tone,if you set "DTST" as ON.Please do as follows:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 17 "DTST"
2.-Press [AB/↵],then press [UP]/[DOWN] to to select OFF/ON.
3.-Press [AB/↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



18.DISPLAY OF FREQUENCY1" MDF1"

Under channel mode, you may have your favorite display,NAME/CHAN/FREQ.
Please do as following steps:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 18 "MDF1"
2.-Press [AB/↵],then press [UP]/[DOWN] to to select FREQ/CHAN/NAME.
3.-Press [AB/↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



19.DISPLAY OF FREQUENCY2" MDF2"

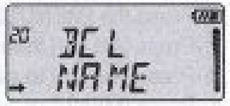
Under channel mode, you may have your favorite display,NAME/CHAN/FREQ.
Please do as following steps:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 19 "MDF2"
2.-Press [AB/↵],then press [UP]/[DOWN] to to select FREQ/CHAN/NAME.
3.-Press [AB/↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



20.BUSY CHANNEL LOCKOUT "BCL"

This function disables the transmission when the transceiver is receiving a signal in the selected

frequency or channel, in order not to interfere with communication.
Follow the steps below to enable or disable this feature:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 20 "BCL"
2.-Press [AB ⁄↵],then press [UP]/[DOWN] to set ON/OFF.
3.-Press [AB ⁄↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



21.DIRECTION OF FREQUENCY SHIFT "SHIFT"

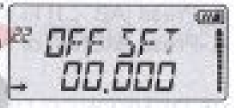
When communicating via a repeater, the direction of displacement of frequency should be timed to the displacement of the transmission frequency is higher or lower than the receiving frequency.
example:
If we want to make a communication through amateur radio repeater whose frequency input is 145,000 MHz and 145,600 MHz is output, we select the "OFFSET" of the previous section in 0600 and the direction of travel "SHIFT" programmed to [-], so the transceiver will always 145,600 MHz in frequency and when you press [PTT] to transmit transceiver, the frequency will automatically move to 145,000 MHz
Set the frequency offset, using the following procedure Under VFO mode.
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 21 "SHIFT"
2.-Press [AB ⁄↵],then press [UP]/[DOWN] to select:"0,-,+."
3.-Press [AB ⁄↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



Note:
- When [0] the frequency of reception and transmission will be the same.
- When [+] the transmission frequency is above the receiving frequency according to "OFFSET" programmed.
- When [-] the transmission frequency is below the reception frequency according to "OFFSET" programmed.

22.FREQUENCY SHIFT "OFFSE"

The "OFFSET" is the difference or offset between the reception frequency and the frequency of transmission for access to amateur radio repeaters. Set the "OFFSET" according to the "OFFSET" amateur radio repeater through which want to communicate.
Follow these steps to set the "OFFSET" Frequency:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 22 "OFFSE"
2.-Press [AB ⁄↵],then directly enter digits.(VHF:0-37.995MHz,UHF:0-69.995MHz)
3.-Press [AB ⁄↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



23.SCAN TYPE "SCANM"

This transceiver allows you to scan memory channels, all the bands or part of the bands.When the transceiver detects a communication, the scan will stop automatically.
Set the desired scanning type, using the following procedure:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 23 "SCANM"
2.-Press [AB ⁄↵],then press [UP]/[DOWN] to select:SE/TO/CO.
3.-Press [AB ⁄↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.

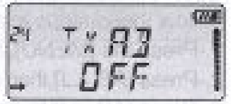


Note:
- "TO" (Time Operation):
Scanning will stop when it detects an active signal. The scanning will stop on each channel or active frequency for a predetermined time, after that time the scan will resume automatically.
- "CO" (Carrier Operation):
The scanning will stop and remain in the frequency or channel, until the active signal disappears.
- "SE"(Search Operation):
The scanning will stop and remain in the frequency or channel after it detects an active signal.

24.PRIORITY TRANSMITTING "TXAB"

When activate function "Dual Watch", the frequency display will switch between F1 and F2. If you come to MENU 24, select F1 or F2, the TX will be selected. Please see the following steps:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 24 "TXAB"
2.-Press [AB/⏎],then press [UP]/[DOWN] to select:F1/F2/OFF.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



25.REVERSED DUPLEX MODE "REV"

When the reversed duplex mode is selected,the receive frequency shifts.(Transmit frequency shifts in normal duplex mode.) Each receive and transmit frequency is shown in the table below with the following conditions:

Input Frequency	Direction	Offset frequency	Reversed (ON)	Reversed (OFF)
435.625 MHz	- (negative)	0.6MHz	435.025MHz	435.625 MHz

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 25 "REV"
2.-Press [AB/⏎],then press [UP]/[DOWN] to select:ON/OFF.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



26.TONE END OF TRANSMISSION "STE"

This function is used to activate or deactivate the transmission end of the transceiver. This final tone transmission only be used in communications between transceivers and not in communications through a repeater, which must be deactivated.

Follow the steps below to enable or disable this feature:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 26 "SCANM"

2.-Press [AB/⏎],then press [UP]/[DOWN] to select:ON/OFF.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



27.NAME OF CHANNEL "NAME":

Under channel mode,any memory channel could be named (4 digits) as any name you want,for example,Call Letters,Cities etc. Do as following steps to set:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 27 "NAME"
2.-Press [AB/⏎],then press [UP]/[DOWN] to select numerics,letters or marks "0—9,A—Z,_,-,+,*, Press [9],go next digit;press [7],go previous.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



28.WIDEBAND OR NARROW BAND "W/N"

Use the narrow band for communication in areas where RF signal is saturated.Therefore you must use the narrow band of Transmission avoiding interference in adjacent channels.

Select the broadband (Wide) or band narrow (Narrow) using the following steps:

1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 28 "W/N"
2.-Press [AB/⏎],then press [UP]/[DOWN] to select:WIDE/NARRO.
3.-Press [AB/⏎] to save the setting.
4.-Press [MENU] or any numeric key to exit.



29.AUDIO COMPANDING "COMP"

Audio companding technology compresses the transmission signal availably and then expand the signal at the receiving terminal. So decrease the background noise,increase the talk quality.

Follow the steps below to enable or disable this feature:
1.-Press the [MENU],then press [UP]/[DOWN] to select the Menu 29 "COMP"
2.-Press [AB ⁄ ↵],then press [UP]/[DOWN] to select ON/OFF.
3.-Press [AB ⁄ ↵] to save the setting.
4.-Press [MENU] or any numeric key to exit.



1.STORED IN MEMORY CHANNEL

You can store up to 99 channels in the transceiver memory.
Follow the steps below to save the channels:
1. -Select the desired frequency in VFO mode and the undertones "CTCSS" codes "DCS", and the frequency shift and direction of travel for access to repeaters.
2.- Press and hold on [VM/SCAN] about 2 seconds,the display will flash "Channel 01-99" ,(If the display won't flash,it means there are stored channel.) press [UP]/[DOWN] to select the channel you want to memorize.
3.- Press [AB ⁄ ↵] to save the channel.
4.-Repeat the above procedure to store more channels.

2.ALARM FUNCTION

1.Hold down the alarm button (Radio Overview F) to activate the alarm. It transmits an alarm signal in the selected channel or frequency while the speaker will sound the alarm.
2.Press the [PTT] or Alarm Button to deactivate the alarm.

3.COMMERICIAL FM RADIO

1.Press [FM] key to enter the commericial FM radio mode.
2.Press [UP]/[DOWN] to select the frequency of the desired FM radio station (frequency range 65 MHz to 108 MHz tuning steps of 100 kHz).
3.Press [VM/SCAN] to switch radio channel mode and FM radio mode.
4.Press [FM] to turn off commercial FM radio.

4.MEMORIZING FM RADIO STATIONS

You can store up to 16 FM radio stations in memory of the transceiver. Follow the steps below to

store the desired FM radio station:

1.Under FM radio mode (VFO),press and hold down [VM/SCAN] about 2 seconds, the display will flash "01-16".
2.Press [UP]/[DOWN] to select the memory location in which to store the radio station.
3.Press [AB/⊿] to save the station.
4.Repeat the above procedure to store more radio stations.

5.ALARM FUNCTION

1.Hold down the alarm button (Radio Overview F) to activate the alarm. It transmits an alarm signal in the selected channel or frequency while the speaker will sound the alarm.
2.Press the [PTT] or Alarm Button to deactivate the alarm.

Note:
If the location in which there is one radio station, the new radio station will replace the old one.

6.SCANNING FM RADIO STATIONS

In operating mode of commercial FM radio, press [MENU], then press the [VM/SCAN] to start scanning all radio stations. Press [UP]/[DOWN], to change the direction of scanning stations. Press any key to exit the scan function.
If during the scan, you want to store the radio station, press any key to exit the scan and memorize the station using the steps described in the previous section.

Note:
- The communication between different transceivers is a priority. Therefore, if the transceiver is in commercial FM radio mode, and a signal of another transceiver is detected, the transceiver automatically will deactivate mode of commercial FM radio.

CTCSS TABLE

N°	Tone (Hz)	N°	Tone (Hz)	N°	Tone (Hz)	N°	Tone (Hz)	N°	Tone (Hz)
1	67.0	11	94.8	21	131.8	31	171.3	41	203.5
2	69.3	12	97.4	22	136.5	32	173.8	42	206.5
3	71.9	13	100.0	23	141.3	33	177.3	43	210.7
4	74.4	14	103.5	24	146.2	34	179.9	44	218.1
5	77.0	15	107.2	25	151.4	35	183.5	45	225.7
6	79.7	16	110.9	26	156.7	36	186.2	46	229.1
7	82.5	17	114.8	27	159.8	37	189.9	47	233.6
8	85.4	18	118.8	28	162.2	38	192.8	48	241.8
9	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1

DCS TABLE

DCS TABLE

Nº	Code	Nº	Code	Nº	Code	Nº	Code	Nº	Code
1	D023N	22	D131N	43	D251N	64	D371N	85	D532N
2	D025N	23	D132N	44	D252N	65	D411N	86	D546N
3	D026N	24	D134N	45	D255N	66	D412N	87	D565N
4	D031N	25	D143N	46	D261N	67	D413N	88	D606N
5	D032N	26	D145N	47	D263N	68	D423N	89	D612N
6	D036N	27	D152N	48	D265N	69	D431N	90	D624N
7	D043N	28	D155N	49	D266N	70	D432N	91	D627N
8	D047N	29	D156N	50	D271N	71	D445N	92	D631N
9	D051N	30	D162N	51	D274N	72	D446N	93	D632N
10	D053N	31	D165N	52	D306N	73	D452N	94	D645N
11	D054N	32	D172N	53	D311N	74	D454N	95	D654N
12	D065N	33	D174N	54	D315N	75	D455N	96	D662N
13	D071N	34	D205N	55	D325N	76	D462N	97	D664N
14	D072N	35	D212N	56	D331N	77	D464N	98	D703N
15	D073N	36	D223N	57	D332N	78	D465N	99	D712N
16	D074N	37	D225N	58	D343N	79	D466N	100	D723N
17	D114N	38	D226N	59	D346N	80	D503N	101	D731N
18	D115N	39	D243N	60	D351N	81	D506N	102	D732N
19	D116N	40	D244N	61	D356N	82	D516N	103	D734N
20	D122N	41	D245N	62	D364N	83	D523N	104	D743N
21	D125N	42	D246N	63	D365N	84	D526N	105	D754N

TECHNICAL SPECIFICATION

GENERAL	
Frequency range:	65MHz-108MHz(Only commercial FM radio reception) VHF:136MHz-174MHz (Rx/Tx). UHF:400MHz-470MHz (Rx/Tx).
Memory channels:	Up to 99 channels
Frequency stability:	2.5ppm.
Frequency step:	5kHz/6.25kHz/10kHz/12.5kHz/20kHz/25kHz
Antenna impedance:	50Ω.
Operating temperature:	-20 ° C to +60 ° C.
Supply voltage:	Rechargeable Lithium-Ion mAh 7.4V/1800.
Mode of operation:	Simplex or semi-duplex.
Duty cycle:	03/03/54 min. (Rx / Tx / Standby).
TRANSMITTER	
RF power:	5W/1W.
Type of modulation:	F3E
Maximum deviation:	≤±5 kHz/≤±2.5 kHz (W/N).

TECHNICAL SPECIFICATION

Spurious emissions:	≤7.5uW
Ajacent channel power	≤-65dB/≤-60dB
RECEIVER	
Receiver sensitivity:	0.2 μV(at 12 dB SINAD).
Intermodulation:	65 dB.
Audio output:	1W
Ajacent channel selectivity	65dB
Spurious response:	65dB
Receiving current:	≤380mA

Note:
- All specifications shown are subject to change without notice.

TROUBLESHOOTING

Problem	Possible cause / solution
The radio does not start.	The battery is low, replace the battery with a charged battery or proceed to the battery.The battery is not installed correctly, remove the battery and reattach it.
The battery runs down quickly.	The battery life has come to an end, replace the battery with a new one.The battery is fully charged, make sure the battery is made in full.
The receiving indicator LED lights but do not hear the speaker.	Make sure the volume setting is too low.Make sure the undertones "CTCSS" or code "DCS" are the same as those programmed in the transceiver of the other members of your group.
When transmitting, the other members of his group do not receive the communication.	Make sure the undertones "CTCSS" or code "DCS" programmed in your transceiver are the same as those programmed in the transceiver of the other members of your group. Your partner or you, are too far. You or your partner are in a bad area of RF signal propagation.

TROUBLESHOOTING

Problem	Possible cause / solution
In "standby" mode, the transceiver transmits without pressing the "PTT"	Check the level adjustment function "VOX" is not set too sensitive.
Receive communications from other user groups while communicating with your group.	Change frequency or channel.Change the undertones "CTCSS" or code "DCS" in your group.
Communication with other members of your group is poor or low quality.	You or your partner is too far away or in an area of poor radio signal propagation, such as inside a tunnel, inside an underground car park, in a mountainous area, including large metal structures, etc..
Once these checks, if you still have problems with the transceiver, check with your distributor, dealer or service center.	